

femora clothed with short bristly hairs, those on tibiæ stronger and longer, the tibiæ also each with four to six stronger long bristles or macrochætæ. Tarsi almost bare, with only short hairs on upper edge, slightly bowed but strongly curved or bent outward just before tip, the latter with some short bristles; claws 2-toothed. Length 1.6 mm.; width of thorax, 1 mm.

Described from one specimen. This species differs from *N. mexicana* Big. as follows: It does not possess the two elongate bristles at end of abdomen, the anterior femora are not bare above, and the intermediate and posterior femora do not possess a preapical bristle or macrochæta.



ON THE FOOD-HABITS OF NORTH AMERICAN RHYNCHOPHORA.

By WM. BEUTENMULLER.

Continued from page 43.

***Anthonomus suturalis* Lec.**—Attacks the Cranberry, laying its eggs in the bud, and the larva living inside the fruit.

***Anthonomus sycophanta* Walsh.**—Was bred by the late B. D. Walsh from the gall of a saw-fly on Willow.

***Anthonomus musculus* Say.**—Is destructive to the Strawberry. Taken on Huckleberry by Dr. Hamilton.

***Anthonomus pusillus* Lec.**—Lives in the seeds of the Frost-weed (*Helianthemum canadense*). (Blanchard, Ent. Am., Vol. III, p. 87).

***Anthonomus gularis* Lec.**—Oviposits in the flowers of *Cassia marylandica*. (Schwarz, Bull. Brooklyn, Ent. Soc., Vol. VII, p. 84).

***Anthonomus flavicornis* Boh.**—Was found by Mr. Schwarz, inquilinous in a globular acarid gall on the leaves of *Solanum eleagnifolia*.

***Anthonomus decipiens* Lec.**—Beaten abundantly from Thorn (*Cratægus*), by Dr. Hamilton.

***Anthonomus cratægi* Walsh.**—Beaten from Wild Cherry, etc. (Dr. Hamilton).

***Anthonomus incipiens* Dietz.**—Beaten in multitudes from Laurel (*Kalmia angustifolia*) just out of bloom. (Dr. Hamilton).

***Anthonomus profundus* Lec.**—Develops within the fruit of Thorn (*Cratægus Crus-galli*); the imago appearing in July.

(Schwarz, Proc. Ent. Soc., Wash., Vol., p. 232). *A. mixtus* Lec., is abundant on the same plant according to Dr. Hamilton.

Anthonomus corvulus Lec.—Is found upon the flowers of Dogwood (*Cornus*) in May. (Harrington, Can. Ent., Vol. xxiii, p. 24).

Orchestes niger Horn and **O. subhirtus** Horn.—Both found on Willow when in bloom. (Harrington, Can. Ent., Vol. xvi, p. 119). *O. pallicornis* Say, *O. rufipes* and *O. ephippiatus*, also occur on Willow. *O. betuleti* Horn, is found on Birch (*Betula nigra*). (Schwarz, Proc. Ent. Soc., Wash., Vol. 1, p. 11).

Elleschus ephippiatus Say.—Was bred by Mr. Walsh from the gall of *Cecidomyia brassicoides* found on Willow.

Elleschus bipunctatus Linn.—Beaten from a small upland Willow, and also from Poplar (*Populus tremuloides*) by Dr. Hamilton.

Macrorhoptus estriatus Lec.—Breeds in the seeds of *Callirhoe involucrata*. (Popenoe, Trans. Kans. Ac. Sc. Vol. v, p. 39).

Piazorhinus pictus Lec., and **P. scutellaris** Say.—Beaten from Oak, etc., (Hamilton). The latter species was also found on Hickory by Mr. Harrington (Can. Ent., Vol. xxiii, p. 25).

Thysanocnemis fraxini Lec.—Collected on Ash trees by Mr. Pettit in Canada. (Leconte, Rhyn. N. Am., p. 214).

Plocetes ulmi Lec.—Found on Elm by Dr. Riley. (Leconte, Rhyn. N. Am., p. 214).

Cionus scrophulariæ Linn.—Attacks the fruit of the Plum, feeding in the kernel. In Europe it is said to be found on *Scrophularia* and *Verbascum*.

Miarus hispidulus Lec.—Has been observed to breed in seed capsules of *Lobelia inflata*. (Blanchard, Ent. Am., Vol. ii., p. 87).

Gymnetron teter Fabr.—Found in abundance on the stalks of the Mullen (*Verbascum thapsus*). The larva lives in the seed pod.

Notolomus bicolor Lec. and **N. basalis** Lec.—Found on Palmetto blossoms, etc. *N. Myricæ* Lec, occurs on a species of Myrtle in Florida. (Schwarz, Proc. Am. Phil. Soc., Vol. xviii, p. 466).

Læmosaccus plagiatus *Fab.*—Is found on Oak (Leconte, Rhyn. N. Am., p. 223). Also beaten from Oak by Dr. Hamilton.

Conotrachelus similis *Boh.*—The imago appear in numbers on *Bumelia lanuginosa*, when the tree is in bloom. (Schwarz, Proc. Ent. Soc. Wash. Vol. 1, p. 232).

Conotrachelus ventralis *Lec.*—Found exclusively on *Persea carolinensis* and have strong evidence that the larva is inquiline in the galls of a Psyllid, *Trioxa magnolie*. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233).

Conotrachelus posticatus *Boh.*—Has been observed to live within Homopterous (*Phylloxera*) galls, by Mr. Schwarz (Proc. Ent. Soc. Wash., Vol. 1, p. 233). Dr. Hamilton informs me that he raised this species from the fruit of Thorn (*Cratægus*).

Conotrachelus elegans *Say.*—Dr. Packard, observed this insect laying its eggs in the partly rolled up leaves of the Pig-nut Hickory and cutting off the leaves during the process. (5th, Rep. U. S. Ent. Com., p. 316). Beaten from Hickory, in the leaves of which the larvæ live. (Hamilton).

Conotrachelus nivosus *Lec.*—Abundant on *Euphorbia corollata*. (Popenoe Trans. Kans. Ac. Sc., Vol. v, p. 39).

Conotrachelus retentus *Say.*—Beaten from Red Oak sprouts by Dr. Hamilton.

Conotrachelus cratægi *Walsh.*—Lives in the fruit of *Cratægus* as well as that of the Plum.

Conotrachelus nenuphar *Hbst.*—Is destructive to the Apple, Apricot, Cherry, Peach, Pear and Quince. The larvæ live in the fruit.

Conotrachelus anaglypticus *Say.*—According to Say, breeds in the fruit of the Walnut (Leconte, Edit., Vol. 1, p. 283). *C. juglandis* *Lec.*, also inhabits Walnuts.

Rhyssomatus lineaticollis *Say.* Infests the seed-pods of the milk-weed.

Chalcodermus æneus *Boh.*—Infests the seed-pods of a species of *Dolichos*.

Pseudomus sedentarius *Say.*—Found on dead vines in Florida. (Schwarz, Proc. Am. Phil. Soc., Vol. xviii, p. 466).

Tyloderma fragariæ *Riley*.—Lives on the Strawberry, excavating the crown and roots of the plant. (Riley).

Tyloderma foveolatum *Say*.—Bores in the stems of Evening Primrose (*Oenothera biennis*). Also bred from *Epilobium* by Dr. C. M. Weed.

Cryptorhynchus parochus *Hbst.*—Lives under the bark of Butternut. (Schaupp, Bull. Brooklyn Ent. Soc., Vol. iv, p. 35).

Cryptorhynchus lapathi *Linn.*—Found on Willow and Alder. The larvæ live in the trunks and stems of these plants.

Cryptorhynchus ferratus *Say*.—Can be obtained from Oak, Chestnut, and various other trees. In Florida it infests the branches of *Persea carolinensis* and is never met with on Oak. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233).

Cryptorhynchus brachialis *Lec.*—Breeds in the twigs of *Bumelia lanuginosa*. (Schwarz).

Cryptorhynchus tristis *Lec.*—Develops under the bark of Oak (*Q. coccinea*). The beetle feeds on the leaves, but is strictly nocturnal, hiding during day time in the ground at the base of the tree. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233).

Cryptorhynchus fallax *Lec.*—Bred from Hickory limbs, dead two years. September. (Hamilton).

Cryptorhynchus helvus *Lec.*—Found on dead vines in Florida. (Schwarz, Proc. Am. Phil. Soc., Vol. xviii, p. 466).

Cryptorhynchus obliquus *Say*.—Breeds in Hickory branches. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233).

Cryptorhynchus bisignatus *Say*.—Found by Dr. Packard on the leaves of the Oak. (5th, Rep. U. S. Ent. Com., p. 204). Also found on a chestnut log by Mr. Chittenden.

Copturus binotatus *Lec.*—Is said by Mr. Schwarz to be confined to the Honey-locust. (Proc. Ent. Soc. Wash., Vol. 1, p. 233.) Dr. Hamilton writes me that it is rare on Oak. *C. quercus* also occurs on Oak.

Acoptus suturalis *Lec.*—Taken in copulation on Hickory stumps. (Harrington, Can. Ent., Vol. xxiii, p. 25). Infests the branches of the Hornbeam (*Carpinus*). (Schwarz, Insect Life, Vol. iii, p. 87). Also lives in dead wood of Beech trees (Chittenden).

Craponius inæqualis Say.—Is injurious to the Grape, stinging the fruit and sometimes destroying the whole bunch.

Cæliodes acephalus Say.—Lives on *Polygonum*, especially on *P. hydropiper*. (Hamilton).

Cæliodes flavicaudis Boh.—According to Mr. Chittenden, occurs in abundance on the common nettle. (*Urtica dioica*).

Tachygonus lecontei Gyll.—Is found on the leaves of young Oaks, as observed by Mr. Zimmermann. *T. centralis* Lec., is found in Colorado on *Rhus aromaticum*. (Leconte, Rhyn. N. Am. p. 266).

Pelenomus sulcicollis Fabr.—Beaten abundantly from *Polygonum* in low grounds by Dr. Hamilton.

Rhinoncus pyrrophus Lec.—A pair of these little beetles were taken by Mr. F. H. Chittenden *in coitu* on a common species of Dock (*Rumex*), and being confined in a small vial with a part of a Dock leaf consumed it almost entirely within a week. The species has also been observed by Mr. M. L. Linell on a species of *Rumex* in June. Dr. J. Hamilton informs me that it lives abundantly on *Polygonum*. Prof. Popenoe also records it as also living on this plant. (Trans. Kans. Ac. Sc., Vol. v, p. 39). *R. longulus* Lec., according to Dr. Hamilton, is very abundant on *Polygonum*, eating round holes in the leaves.

Ceutorhynchus napi Gyll.—Was bred from the stalks of Wild Pepper-grass by Miss Mary Murtfeldt, who also described the earlier stages of this species. (Rep. Dept. Agricul., 1888, p. 136).

Ceutorhynchus cyanipennis Germ.—According to Mr. Jülich this species is said to be found on Grass. (Ent. Am., Vol. v, p. 57). In Europe it lives in the roots of Cabbage.

Ceutorhynchus assimilis Payk.—Infests the Radish. *C. rape* Gyll. Lives on the Rape and *C. septentrionalis* Gyll. is found on the Mustard (*Sisymbrium officinale*).

Baris interstitialis Say.—Found on flowers of Thistle in Florida (Schwarz, Proc. Am. Phil. Soc., Vol. xviii, p. 467.) Found on Yarrow by Mr. Jülich. (Cat. Ins., N. J., p. 262).

Baris confinis Lec.—Bred from the stems of a species of *Bidens* by Dr. C. M. Weed.

Trichobaris trinotata Say.—Bores in the stalk of the Potato, causing the stem to wilt.

Pseudobaris farcta Lec.—Found on *Salvia pitcheri*. (Popenoe, Trans. Kan. Ac. Sc., Vol. v, p. 39).

Pseudobaris nigrina Say.—Found on Golden-rod. (Jülich, Cat. Ins. N. J., p. 262).

Phytobius velatus Beck.—Lives in the larval state on maritime plants, coming ashore in the mature stage to hibernate.

Onychobaris rugicollis Lec. Found on Milk-weed. (Jülich, Cat. Ins. N. J., p. 262).

Aulobaris ibis Lec.—Taken on the blossoms of Thistle by Mr. C. Dury.

Ampelogypter sesostris Lec.—Makes a gall on the Grape-vine, as also does *A. ater* Lec. (Riley, Bull. Brooklyn Ent. Soc. Vol. vi, p. 61). *A. ater* was bred from the stems of *Ampelopsis* by Dr. Hamilton.

Madarus undulatus Say.—Bred from the stem of *Ampelopsis* by Dr. Hamilton.

Pachybaris porosus Lec.—Found exclusively on Palmetto blossoms in Florida. (Schwarz, Proc. Am. Phil. Soc. Vol. xviii, p. 467).

Centrinus scutellum-album Say.—I have found this beetle in abundance on the flower head of the Daisy.

Centrinus picumnus Hbst.—Infests the stems of the Bottle-grass. (*Setaria glauca*). (Webster, Insect Life, Vol. i, p. 374).

Centrinus lineicollis Lec.—The beetle feeds in June and July on the flowers of *Ceanothus americanus*. (Hamilton).

Centrinus prolixus Lec.—Occurs in the imago state upon Sedges and aquatic plants. (Harrington, Can. Ent., Vol. xxiii, p. 26).

Centrinus rectirostris Lec.—May be found in wet places on Club-rush (*Scirpus eriophorum*), in the stems of which the larva lives. (Harrington, Can. Ent., Vol. xxiii, p. 25). Also taken by Mr. C. Tunison and myself on this plant.

Euchætes echidna Lec.—The beetle has been found running on dead Beech trees near Cincinnati, O., by Mr. C. Dury.

Plocamus hispidulus Lec.—Breeds in the dead branches of

the common Locust, infested with *Agrius* larvæ. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233).

Balaninus quercus Horn, **B. nasicus** Say, and **B. uniformis** Lec.—Were bred from different kinds of acorns. *B. obtusus* Blanch, inhabits Hazel-nuts. *B. caryæ* Horn, lives in hickory-nuts. *B. proboscideus* and *B. rectus* were bred from chestnuts. The latter species also inhabits acorns. (Hamilton, Can. Ent., Vol. xxii, pp. 1-6).

Cylas formicarius Fab.—Bores in the roots of the Sweet-potato in Florida. (Comstock, Rep. Dept. Agricul. 1879, p. 250).

Eupsalis minuta Dr.—Bores under the bark of Chestnut Oak and Maple.

Sphenophorus.—The different species of this genus as far as known, infest the roots or lower parts of the stems of various wild and cultivated *Graminaceous* plants in their earlier stages. (See Forbes, 5th, Rep. Nox. Ins. Illinois, pp. 58-74).

Rhodobænus tredecimpunctatus Ill.—I have found this insect on Evening Primrose. Mr. F. M. Webster found it burrowing in the pith of the common garden Sunflower. (Insect Life, Vol. 1, p. 382). Also found on *Vernonia* by Prof. Popenoe. (Trans. Kans. Ac. Sc., Vol. v, p. 39).

Rhynchophorus cruentatus Fab.—Lives in the lower parts of the trunk and roots of the Palmetto. I have taken over a hundred individuals at Enterprise Florida, in May. The beetles were caught boring in the soft pulpy substance in the trunk of a young and freshly cut Palmetto tree. *R. palmarum* L. also lives in the Palmetto.

Cactophagus validus Lec.—Has been found exclusively under decaying *Opuntia* leaves, the larva no doubt living within the leaves or roots of the same plant. (Insect Life, Vol. 1, p. 199).

Calandra oryzae Linn. and **C. granaria** Linn.—Both these depredate upon stored wheat, rice, corn and other grains. *Calandra remotepunctata* Gyll., lives in grain in storage in multitudes, it is often called *C. granaria*, which rarely occurs in North America (Hamilton).

Yuccaborus and **Scyphophorus**.—Both these genera infest plants of the genus *Yucca*. (Insect Life, Vol. 1, p. 199).

Dryotribus, **Gonototus**, **Macrancylus** and **Elassoptes**.

These genera are strictly maritime, and live in larva and imago states in old boards and roots, etc., washed up on the beach (Insect Life, Vol. 1, p. 199).

Himatium conicum Lec.—Breeds within the bark of the Tulip-tree. (Schwarz, Proc. Ent. Soc. Wash., Vol. 1, p. 233). *H. errans* Lec., is inquilinous in the galleries of *Tomicus cacographus* under bark of yellow Pine. (Schwarz, Bull. Brooklyn Ent. Soc., Vol. VII, p. 84).

Cossonus corticola Say, **C. piniphilus**, **C. concinnus**, and **C. crenatus**.—Live under the bark of Pine trees. *C. platidea*, breeds abundantly under the bark of Butternut (Hamilton). Has also been found under bark of a partly decayed Poplar tree by Mr. Harrington. (Ent. Am., Vol. 1, p. 19).

Allomimus, **Caulophilus**, **Amaurorhinus** and **Rhyncholus**.—These genera live under bark of dead and decaying wood of deciduous or coniferous trees. (Insect Life, Vol. 1, p. 198).

Dryophthorus corticalis Say.—Was found by Mr. J. D. Sherman under bark of Pine. (*Pinus rigida*).

Stenomimus pallidus Boh.—Breeds in wounded places on living Hickory trees. (Hamilton).

Phlæophagus apionides Horn.—Lives in the trunks of Wild Cherry (*Prunus serotina*) and Ash. *P. minor* Horn, was found on Birch, Willow, and Elm by Mr. Chittenden; also taken on Ash by Mr. Jülich, who found the European *P. spadix* in water-soaked drift wood at the sea-shore of Long Island.

Wollastonia quercicola Boh.—Lives in decaying wood of Cottonwood. (Knaus, Bull. Brooklyn, Ent. Soc., Vol. VII, p. 150).

Stenoscelis brevis Boh.—Has been taken from old Maple and Poplar stumps by Mr. Harrington. (Ent. Am., Vol. 1, p. 19).

Rhyncholus brunneus Mann.—Has been found in wood of Wild Cherry (*Prunus serotina*) by Mr. F. H. Chittenden. *R. angularis* Lec., was found under the bark of Willow. (Leconte, Proc. Ac. Nat. Sc. Phil., 1858, p. 81).

Eurymycter fasciatus Oliv.—Found on fungus growing on dead Beech trees by Mr. C. Dury.

Hormiscus saltator Lec.—Taken on dead branches of Osage-orange by Mr. C. Dury. *Eusphyrus walshii* Lec., also occurs on the dead branches of Osage-orange.

Phœnicobius chamæropis Lec.—Common on fresh cut Palmetto leaves in Florida. (Schwarz, Proc. Am. Phil. Soc., Vol. xviii, p. 469).

Piezocorynus dispar Gyll. and **P. mixtus** Lec.—Both feed in the imago state on fungus growing on the trunks of dead Beech trees. Have been taken in abundance by Mr. C. Dury near Cincinnati, Ohio.

Anthrribus cornutus Say.—Has been found in the imago state on the Honey-locust by Mr. C. Dury. It was raised from the stems of the Tamarix by Prof. E. A. Popenoe. (Bull. Agri. Exp. St. Kans. No. 3, 1888, p. 35).

Aræocerus fasciculatus De G.—Raised from the seed-pods of a large yellow flowering shrub belonging to the *Mimosaceæ*.

Choragus sayi Lec.—Found by Mr. Schwarz in the twigs of dead Beech trees, which were infested with fungus growth. (Bull. Brooklyn Ent. Soc., Vol. vii, p. 85).

Cratoparis lunatus Fabr.—Lives in fungus found on dead Oak trees.

Brachytarsus limbatus Say.—Was raised by Mr. Schwarz, from the flower heads of *Helelenium tenuifolium*. He also obtained from the same plant *B. vestitus* Lec.

Brachytarsus variegatus Say.—Breeds in smut of Corn. (Schwarz, Bull. Brooklyn Ent. Soc., Vol. vii, p. 85).

Brachytarsus tomentosus Say.—Was found on Rag-weed (*Ambrosia*) by Dr. J. Hamilton. (Can. Ent., Vol. xviii, p. 114). Also taken on the same plant by Mr. J. D. Sherman.

Euxenus piceus Lec.—Found on dry Palmetto leaves in Florida, by Mr. Schwarz. (Bull. Brooklyn, Ent. Soc., Vol. vii, p. 85).

